

LARVAL HOSTS OF *ANAPLECTOIDES* AND *APLECTOIDES*
WITH NOTES ON THEIR BIOLOGY
(LEPIDOPTERA: NOCTUIDAE)

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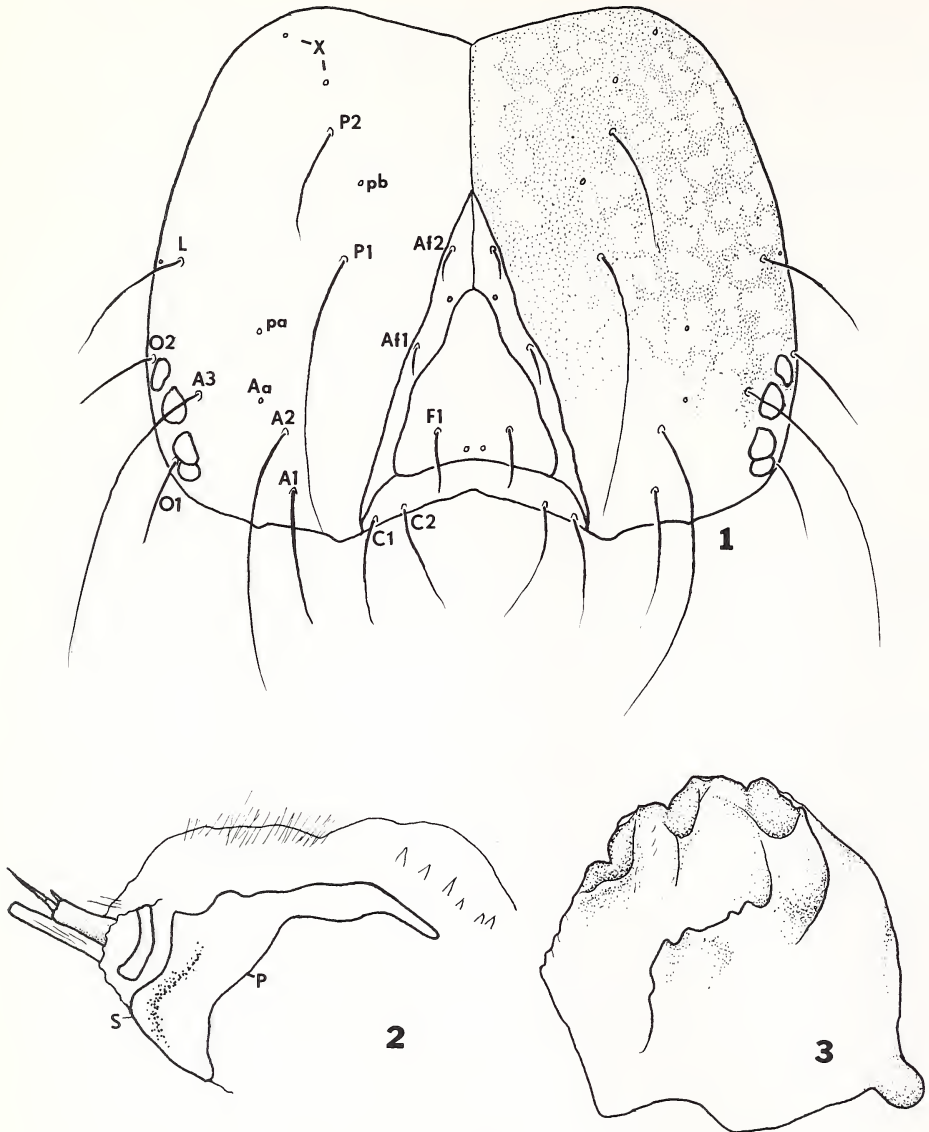
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Abstract.—The larva of *Aplectoides condita* Guenée (Lepidoptera: Noctuidae) is described and illustrated. *Larix laricina* (Du Roi) Koch was found to be an acceptable host. The species is univoltine and normally overwinters as a larva in a cocoon. An unusual adult form of *condita* is illustrated. The larva of *condita* is compared to that of *Anaplectoides pressus* (Grote). *Larix laricina*, *Sambucus canadensis* L., *Salix gracilis* Anderss., *Vicia cracca* L., *Betula papyrifera* Marsh and *Alnus rugosa* Du Roi, represent new host records for *pressus*.

Tietz (1972) gave host records for *Aplectoides condita* Guenée, but in actuality the hosts listed were for *Jocara trabalis* Grote, a pyralid. Smith (1893) first recognized the synonymy between *Agrotis trabalis* Grote, a noctuid, and *Aplectoides condita*, but Tietz inadvertently treated the other Grote *trabalis* species, *Jocara trabalis*, as the synonym, hence the incorrect host citation.

Grote (1877) described *trabalis* from two specimens from Montreal and Massachusetts. Thaxter, who provided Grote with the type specimen of *trabalis*, gave the following (Grote, 1877) field notes: "cocoon found under pine bark in April, when the larva had not yet become pupa. The cocoon was tough, not unlike that of *cerura*. Larva dull white with blackish markings." The "dull white" descriptor probably was based on a prepupa as it bears no resemblance to the normal last instar larva. Confined larvae also made a cocoon on the bark. The larva may habitually form a cocoon on the trunk of the host which would add the "pine" of Thaxter to the list of acceptable hosts. Balsam, *Abies balsamea* (L.) Mill., was reported as a host for *condita* in Prentice (1962).

A female of *condita* was collected in the Adirondack Mountains on 3 June 1977. The moth oviposited two days later and in another eight days the larvae began to eclose. The first instar larvae were offered *Larix laricina* (Du Roi) Koch [Pinaceae] which they readily accepted. *Abies balsamea* [Pinaceae] was fed on to a much lesser extent, and *Pinus strobus* L. [Pinaceae], *Betula papyrifera* Marsh and *Alnus rugosa* Du Roi [Corylaceae], *Sambucus canadensis* L. [Caprifoliaceae], *Prunus virginiana* L. and *Spiraea latifolia* (Ait.) Borkh. [Rosaceae], and *Salix bebbiana* Sarg. [Salicaceae] were all avoided. Larvae were reared in continuous darkness interrupted by the addition of fresh *Larix* needles every two days. Full-grown larvae were obtained by 15 August. The larva normally overwinters in a cocoon amongst the needles or on the bark; the cocoon consists of bits of chewed bark and silk. Four males and two females pupated in the late summer and emerged in October and November, but the majority diapaused as larvae. Since the moth normally appears in June, the artificial rearing conditions had accelerated development and disrupted the normal larval diapause.



Figs. 1-3. *Aplectoides condita*. 1. Setal map of head capsule. 2. Hypopharynx. 3. Oral face of left mandible.

The larva of *condita* (Fig.4) can be distinguished from the related and frequently sympatric *Anaplectoides pressus* (Grote) by the squarish, black subdorsal patches (Fig. 5) and the deeply cleft mandibular teeth of *pressus*. Both species' larvae have similar proximolateral teeth on the hypopharynx, but *pressus* has the prementum deeply notched anterodorsally whereas *condita* is simple. Both larvae gradually in-

crease in width posteriorly. Crumb (1956) described the larva of *pressus* and gave Cornsalad (*Valerianella* sp.) as a host. Larvae of *pressus*, which I reared ex ova obtained from an Adirondack specimen, accepted *Larix laricina*, *Sambucus canadensis* L. (reared to maturity on this), *Salix gracilis* Anderss., *Vicia cracca* L. [Leguminosae], *Betula papyrifera* Marsh, and *Alnus rugosa* Du Roi, but would not feed on *Abies balsamea*, *Pinus strobus*, or *Tsuga canadensis* (L.) Carr. *Anaplectoides prasina* (Denis and Schiffermüller) is also polyphagous. If Crumb's (1956) keys are used, *condita* will not key to *pressus* because of the dissimilar proportion of the 2nd and 3rd labial segments. In *pressus* these two segments are both short and subequal whereas in *condita* segment 3 is four times the length of segment 2. The larvae of *pressus* and *condita* are nearly identical in head, thorax, and abdominal chaetotaxy. According to McDunnough (1923), in his generic revision of the North American agrotids, *Aplectoides* and *Anaplectoides* are placed together, sharing a modified *Agrotis* type of harpe and having the fore tibial spining much reduced. He states they are similar in outward structural characters but differ markedly in genitalic characters.

The adult of *condita* is illustrated in Figure 8. A most unusual form of *condita* was collected on 6 June 1980 on a bog on the south end of Raquette Lake, Hamilton County, New York. This form (Fig. 9) differs from a normal adult (Fig. 8) in being highly contrasty and lacking the brown scaling between the postmedian and subterminal lines. The genitalia was examined to confirm its identity. This single example was collected in the field a full week before normal *condita* began emerging.

Description of the mature larva of *Aplectoides condita*
(Setal nomenclature follows Hinton, 1946)

General (Fig. 4): Average head width 2.58 mm; average total length 33.0 mm; abdominal prolegs represented on 3rd through 6th and 10th segments; setae simple; spiracle Ab8 0.32 mm high on average (N = 6). Body gradually enlarged posteriorly.

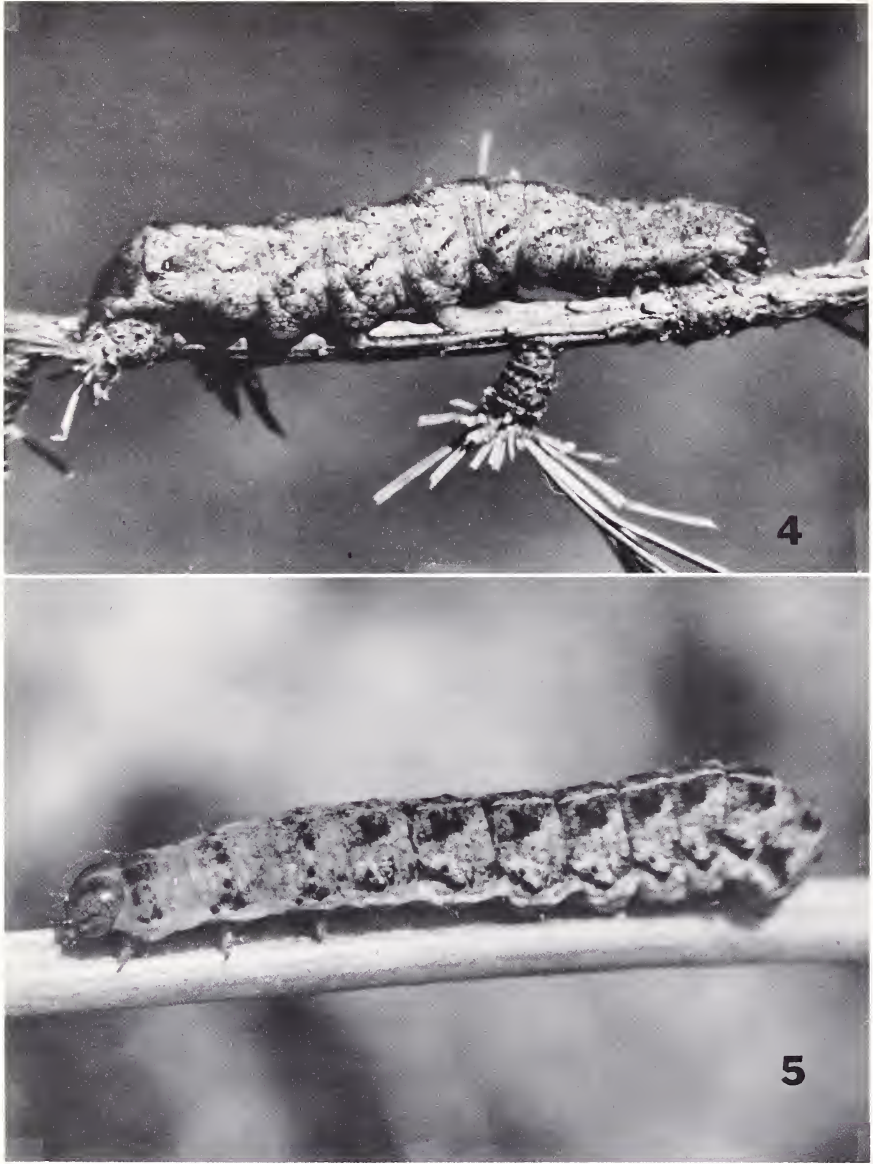
Coloration (living material)(Fig. 4): Light brown, mottled and reticulate with dark brown, the most distinctive of these markings being a series of lateral abdominal patches passing through each spiracle and sloping downward toward the rear of each segment. Dorsal surface of each segment bearing a diamond-shaped patch which runs from segmental membrane to segmental membrane.

Head (Fig. 1): Epicranial suture 0.87 mm long; height of frons 0.94 mm. First adfrontal (Af1) posterior to apex of frons. Coronal punctures Fa, Afa, Aa, pa, pb, La, and 4 ultraposteriors (visible in frontal view, labeled with an "x") present as illustrated.

Mouthparts. Hypopharyngeal complex (Fig. 2): Labial palpi with 3rd segment four times length of 2nd; 2nd and 3rd and combined subequal to basal segment. Spinneret shorter than labial palpi; distal apex of hypopharynx bears a few setae, followed by a patch of setae and finally a posterior row of 6 or 7 widely spaced spines. Mandible (Fig. 3) with basal tooth present, outer teeth low.

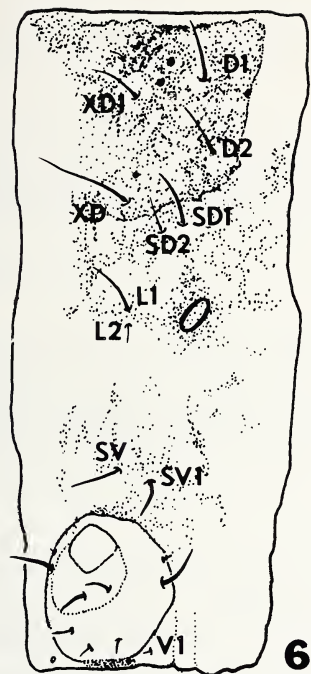
Thoracic segments. Prothorax (Fig. 6): Cervical shield weakly sclerotized. All setae lacking pinaculi. SV group with two, or rarely one, setae. Meso- and metathorax with D2 and SD1 setae each accompanied by a puncture immediately below setal base. Only one subventral seta present.

Abdominal segments. Ab1 (Fig. 7): Two subventral setae (SV1 & SV3); L1 posterior

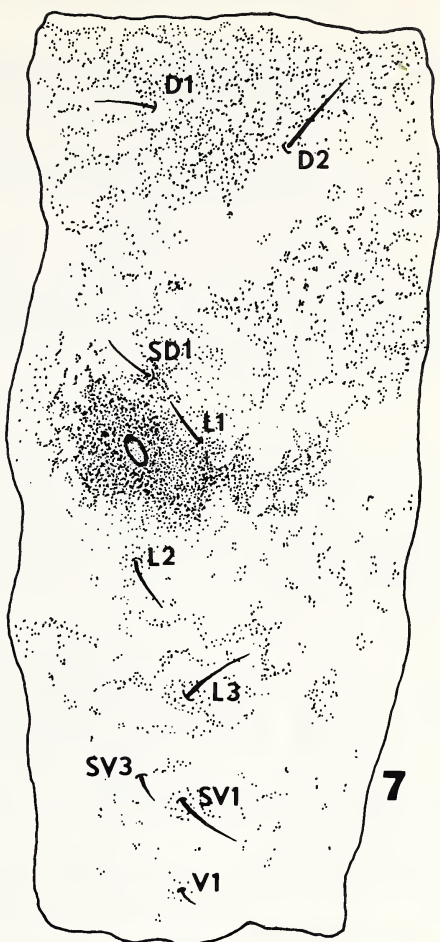


Figs. 4-5. 4. Mature larva of *Aplectoides condita*. 5. Mature larva of *Anaplectoides pressus*.

Figs. 6-9. *Aplectoides condita*. 6. Setal map of prothoracic segment (lateral view from mid-dorsal to midventral line). 7. Setal map of first abdominal segment (lateral view from middorsal to midventral line). 8. Bred adult *condita* from Indian Lake site. 9. Unusual adult form of *condita* taken on a bog on Raquette Lake, Hamilton County, New York.



6



7



8



9

to spiracle; SD2 seta absent, its setal base present anterior to spiracle. Ab2–Ab6 with 1 subventral seta; SD1 anterodorsal to spiracle; L1 posterior to spiracle. Ab7 with SD1 posterodorsal to spiracle; L1 posteroventral to spiracle; SV1 ventral to L2. Ab8 with SD1 posterodorsal to spiracle; L1 posterior to spiracle; SV1 posterodorsal to L2. Crochets a uniordinal mesoserries; 19–25 on Ab3, 18–28 on Ab4, 24–31 on Ab5, 25–30 on Ab6, and 32–35 on Ab10.

Material examined: 6 specimens, 10 kilometers east of Indian Lake, lat. 43°45'30" long. 74°10'14", Hamilton County, New York, elev. 555 meters, from ova of female collected and determined by T. L. McCabe. Parental female, all larvae, and F1 adults are coded tlm 77-47a. In 1980, another brood (tlm 80-96) from the same site was also used for host preference studies.

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